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Index to Recent American Botanical Literature.

Alaskan Plants. F. H. Knowlton. (Bot. Gazette, xi., p. 340.)

A list of 24 species collected by Mr. S. Applegate. The rare *Carex decidua*, Boott, is among the number.

Ambrosia bidentata × *trifida.* Asa Gray. (Bot. Gazette, xi., p. 339.)

A hybrid between these species has been found at St. Louis, Mo., by Mr. H. Eggert.

Asimina triloba. (Lloyd's Drugs and Medicines of North America, ii., pp. 49–60; one plate and cuts in the text.)

Azolla Caroliniana—Note on. S. Henshaw. (Proc. Nat. Sci. Assoc., Staten Island, Dec. 11th, 1886.)

" I first noticed *Azolla Caroliniana* in our lotus pond, about two years ago, and have no doubt it came with some aquatic plants which I received from the South. It was very interesting to me at first, looking like bits of floating moss, and apparently so frail that it was liable to be blown off the surface of the water. It turned out more able to take care of itself than I imagined, however, and the innocent-looking plant in a short time covered the whole surface, crowding out the more robust growing *Nymphœas* and making sad havoc with all the permanent plants in the pond. It even tried to climb the stalks of the lotus, and eventually became such a pest that I tried to skim it off the surface of the water; but it appeared to grow all the faster. I turned the hose on it, and tried to float it off, but it is still here, and I know of no way to get rid of it without destroying all the other aquatic plants in the pond.

" Thinking that it might make itself at home in some of the ponds and streams in the neighborhood, I threw a little of it in the shallow end of Silver Lake, Clove Lake, and along the edges of the swamps. This was on May 10th, 1885. By July 5th of the same year it had spread amazingly, especially in the swamps at the head of Clove Lake, where, by autumn, it had covered every available inch of surface. Where fully exposed to the sun, it assumed a red or rusty appearance and gave rise to many inquiries on the part of people in the vicinity as to what it was and how it came there.

" It has evidently become more or less acclimated, as it lived through the past winter and was abundant throughout this year. I think we may venture to put it among the plants of recent introduction."

Bartonia aurea. Chas. E. Parnell. (Vick's Ill. Month. Mag., x., pp. 9, 10; one figure.)

Bulliform or Hygroscopic Cells of Grasses and Sedges Compared. W. J. Beal. (Bot. Gazette, xi., pp. 321–326; one plate.)

Californian Plants—Two new. Volney Rattan. (Bot. Gazette, xi.. pp. 338, 339.)

Carex—Notes on, viii. L. H. Bailey, Jr. (Bot. Gazette, xi., pp. 328-330; one plate.)

This is an account of the several forms regarded by Mr. Bailey as hybrids. *C. Knieskernii*, Dewey, is considered a hybrid of *arctata* × *flexilis.*

Check-List of North American Plants, including Mexican Species which approach the United States Boundary. H. N. Patterson. Large 8vo., pp. 151; Oquawka, Ill., 1887.

This is by far the handsomest and most complete publication of its kind yet issued. It is printed on heavy paper, in large, clear type, and is remarkably free from errors of spelling and typographical blunders, and gives us a list of North American Phanerogamia and Pteridophyta well representing our flora as it is known to-day. It appears that we have 164 species and 22 varieties of Ferns and Ophioglossaceæ. One *Lechea, L. maritima,* Leggett, is omitted; and *L. thymifolia,* Pursh., which this replaces, should be *L. thymifolia,* Michx.,—the *L. Novæ-Cæsareæ* of Austin; several other well-known species have been overlooked; others, reported or described while Mr. Patterson's work was in press, are also to be added. To provide room for such on the pages, there are spaces left after each of the larger genera. The arrangement of both species and genera is alphabetic. There must, in time, be many changes and additions, and we hope that Mr. Patterson's venture may be so successful that he will feel warranted in issuing other editions.

Costa Rica Ferns—Mr. J. J. Cooper's. J. G. Baker. (Journ. Bot., xxv., pp. 24–26.)

An enumeration of 112 species collected by Mr. Cooper in the forests of Costa Rica and sent by him to the U. S. National Museum, whence they were forwarded to Mr. Baker for determination. *Gleichenia intermedia*, *Adiantum Cooperi*, *Polypodium percrassum* and *P. aspidiolepis*, spp. nn., are described.

Fasciation in Ailanthus and Sumach. W. T. Davis. (Proc. Nat. Sci. Assoc., Staten Island, Dec. 11th, 1886.)

After some general remarks on fasciation, with reference to Dr. Master's work, Mr. Davis said:

"I have observed in my rambles that fire is the chief cause of fasciation in ailanthus and sumach (*Rhus glabra*), but it does not appear to have been mentioned as a producer of this deformity.

"Along the stone wall on the property of the Sailors' Snug Harbor, the vegetation has been burned for several years, the dead stalks standing thick among the summer's growth. After the fire in the spring of 1885 many of the young ailanthus trees became fasciated, the adhesion of branches numbering four and five in some cases, and I counted over twenty good specimens of these deformed stalks in quite a small area. I noticed also that most of the young trees had lost their cylindrical outline and had become extremely angular, though after a whole summer's growth they failed to develop a fasciated stalk. On the other side of the wall, where there had been no fire, the ailanthus trees were entirely normal. In the spring of this year these bushes and young trees were again subjected to the influence of fire, and as the summer proceeded I noted a new growth of deformed ailanthus trees and also a number of fasciated sumach stalks.

"Early this spring I discovered a locality in the vicinity of Richmond where the blackened stems of the sumachs showed plainly that there had been a fire, and in the summer the leaves as well as the stalks became fasciated. Other leaves, though normal in shape and showing signs of adhesion, were much enlarged. The flowers growing on these fasciated stalks, which are also for the most part deformed, are not borne in a single head, but extend a long way down the branch, intermixed with the leaves. This fact seems to prove more conclusively that the adhesion of many branches and not the expansion of one, is the true theory of fasciation.

"A great many districts are burned over in the fall, but I think it is only the fires that take place after growth has commenced in the spring that produce this result."

Flora of our Southwestern Archipelago. Wm. S. Lyon. (Bot. Gazette, xi., pp. 330-336, continued.)

Mr. Lyon gives here a list of the flowering plants and ferns of Santa Catalina Island, 151 in number, and one of San Clemente Island, numbering 81.

Flora of Washington and Vicinity—Additions to the. F. H. Knowlton. (Proc. Biol. Soc., Washington, iii., pp. 106-132; reprinted.)

This paper is supplementary to Mr. L. F. Ward's "Guide to the Flora of Washington," and contains the additional Phanerogamia and Pteridophyta detected in the region up to April 1, 1886, 39 in number.

Rev. E. Lehnert contributes "A Revision of the Musci and Hepaticæ of Washington and Vicinity," and "A List of the Lichens of Washington and Vicinity," both bare lists, without habitat or locality. The changes in nomenclature applicable to species published in Mr. Ward's Guide are noted; new stations for rare species are recorded, and a few corrections to previously published lists are made.

Florida Fungi—Notes on—No. 10. W. W. Calkins. (Journ. Mycol., iii., p. 7.)

Fungous Diseases of the Grape Vine—Report on. F. Lamson Scribner. (U. S. Dept. Agric., Botanical Division, Bull. No. 2, pp. 136; seven plates. Washington, 1886.)

It appears that four species of fungi are principally concerned as vine pests in this country. These are the Downy Mildew (*Peronospora viticola,* De By.), the Powdery Mildew (*Uncinula spiralis,* B. & C.), the Black Rot (*Physalospora Bidwelli,* Sac.), and Anthracnose (*Sphaceloma ampelinum,* De By.). These are all carefully described and beautifully illustrated. The Downy Mildew is found both on our wild and cultivated grapes, and has doubtless been conveyed from the former to the latter. The Powdery Mildew is also a native of America, and attacks both wild and cultivated vines, showing a preference for those of the Vinifera class. The Black Rot is likewise of American origin. Anthracnose is an importation from Europe, and has attracted attention in many places during the past season. Two other less destructive fungi are noted. The prevention and cure of all these diseases are discussed. As appendices to Mr. Scribner's report are papers by Mr. Erwin F. Smith, entitled "Synopsis of Replies to a Circular relative to Grape Mildews and Grape Rots in the United States;" one by Col. A. W. Pearson on "Grape Rot and Grape Mildew;" the third appendix contains fourteen papers on "The Prevention of Mildew—Results of Experiments with various Fungicides in French and Italian Vineyards in 1885," and the fourth is a summary of the results of the congress on parasitic diseases of the vine, held at Florence, Italy, October, 1886. There is a full index to subjects treated and authorities cited.

George Winter—Sketch of. W. A. Kellerman. (Journ. Mycol., iii., pp. 8-10.)

An account of Dr. Winter's life, and a list of his publications on fungi.

Grasses—New. George Vasey. (Bot. Gazette, xi., pp. 337, 338.)

Sporobolus Bolanderi, Agrostis foliosa, Muhlenbergia Neo-Mexicana and *M. acuminata* are described.

Hierochloa borealis. Walter Deane. (Bot. Gazette, xi., pp. 326-328.)

Hypocreacræ, Synopsis of the North American, with Descriptions of the Species. J. B. Ellis and B. M. Everhart. (Journ. Mycol., iii., pp. 1-6, concluded.)

The number of species of this order described is 161; an index to genera and species accompanies this last part of the synopsis.

Lobelia inflata. (Lloyd's Drugs and Medicines of North America, ii., pp. 63-66; one plate and cuts in the text.)

Magnolia. (Lloyd's Drugs and Medicines of North America, ii., pp. 37-46; concluded.)

In this part there is a full-page engraving of *M. macrophylla*, natural size. Professor Sargent contributes the description of the geographical distribution of the genus in the United States, which is illustrated by a map. The Professor seems to have overlooked the occurrence of *M. glauca* on Long Island, N. Y.

(See BULLETIN, x., p. 95; xii., p. 87.) .Dr. Heflebower describes the microscopic structure of the bark, which has a well marked zone of sclerotic cells in the endodermis; a good figure of this is given.

Nymphæa flava, Leitner. (Bot. Mag., Plate 6917.)

Ruppia maritima, L., *in Nebraska.* C. E. Bessey. (Amer. Nat., xx., pp. 1052, 1053.)

Santa Cruz Island. E. L. Greene. (West Amer. Sci., iii., pp. 1–4.)

An account of the physiography of this island, with notes on its peculiar flora. *Castilleia hololeuca*, Greene, n. sp., is described.

Selinum Canadense in Indiana. J. N. Rose. (Bot. Gazette, xi., p. 338.)

Stamens and Glandular Hairs of the Moth Mullein. J. L. Zabriskie. (Journ. N. Y. Micros. Soc., ii., p. 127.)

It is stated that the glandular hairs are advantageously shown on a thin transverse section of the ovary; they are comparatively short and stout, and composed of three or four cells. The gland is a globe about four times the diameter of the hair, and is ornamented with a beautiful closely-fluted pattern below the horizontal diameter. The specimen examined appears to have been a hybrid between *Verbascum Blattaria* and *V. Lychnitis.*

Terfezia leonis, Tul. (*Tuber niveum*, Desf.) J. B. Ellis. (Journ. Mycol., iii., p. 10.)

This species, known as the "White Truffle," was communicated to Mr. Ellis by Mr. A. B. Langlois, who reports it quite common in the red sandy soil of the Red River in northwestern Louisiana. Its home is said to be in northern Africa, though it is not uncommon in southern Europe.

Tsuga Caroliniana. (Gardeners' Chronicle, xxvi., p. 788, fig. 153.)

Prof. C. S. Sargent gives a brief historical account of the Carolina Hemlock, with description, habitat and cultivation. The illustration is by C. E. Faxon.

Tumbleweed—Another. C. E. Bessey (Amer. Nat., xx., pp. 1053, 1054.)

This one is *Psoralea tenuiflora*, Pursh, noticed by Professor

Bessey in southern Nebraska in great loose masses in the railway ditches.

Vinegar and its Mother. F. A. Fernald. (Pop. Sci. Month., pp. 378–384.)

Wild Flowers of Dakota. John W. Dunlap. (Gard. Month., xxix., p. 21.)

It is stated that the *Heliotropium Curasavicum* is extremely abundant along the margins of Long Lake, near Woonsocket, Dakota.

Wind and the Tree-Tops. B. F. Hoyt. (Amer. Nat., xx., pp. 1051, 1052.)

From 156 observations on injuries by the wind to deciduous-leaved trees, Mr. Hoyt concludes that these are generally broken at the crotch, this being the weakest point. The Coniferæ having a central axis and verticillate branching, are seldom broken, but generally torn up by the roots. He advances the hypothesis that "the accumulated effects of the wind have been to develop excurrent forms of tree-top," and queries why the Coniferæ should have this in greater perfection than other plants, suggesting that deciduous trees are injured only when in foliage—which is scarcely true in all cases, —while evergreens, being always in foliage, are more exposed to the wind; also that as the Coniferæ are geologically older than Angiosperms, they have had more time to accumulate the effects of the wind and develop an excurrent form of top. Mr. Hoyt does not take into account the fact that the method of branching of Coniferæ is largely determined by their growth from apical cells.

Zauschneria Californica. (Garden, xxxi., pp. 28, 29, with plate.)

The Californian Fuchsia has brilliant scarlet blossoms with exserted stamens, and is a very showy plant in cultivation.

Botanical Notes.

Concerning Guarana and Coca. The *Oil, Paint and Drug Reporter*, in its issue of January 5, departs from its usual careful habits in printing an extract from the work of Mr. H. Semler in reference to "Kola Nuts, Guarana and Coca." The statements